



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,514	05/01/2006	Naoshi Masukawa	124639	2015
25944	7590	09/21/2009	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				O HERN, BRENT T
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
09/21/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/541,514	MASUKAWA ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Brent T. O'Hern	1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 13 July 2009.  
 2a) This action is **FINAL**.                  2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,3-9 and 15 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,3-9 and 15 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/13/2009 has been entered.

### ***Claims***

2. Claims 1, 3-9 and 15 are pending with claim 9 withdrawn and claim 15 new.

## **WITHDRAWN REJECTIONS**

3. All rejections of record in the Office action mailed 3/13/2009 have been withdrawn due to Applicant's amendments in the Paper filed 7/13/2009.

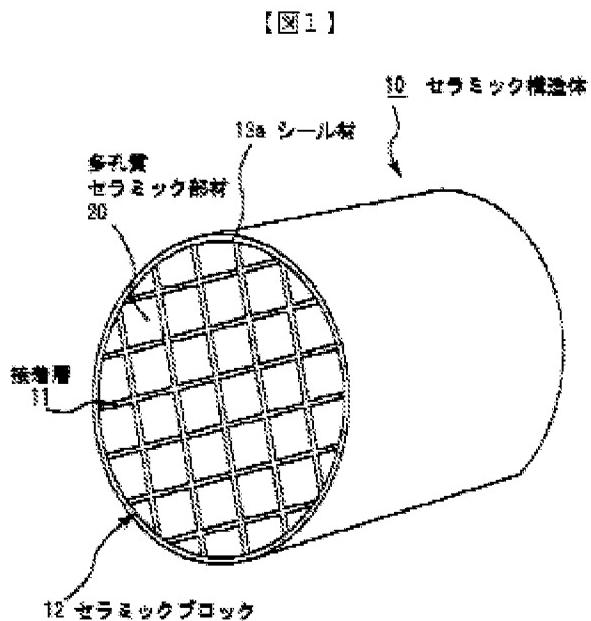
## **NEW REJECTIONS**

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

### ***Claim Rejections - 35 USC § 102/103***

5. Claims 1 and 3-8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yoshida (JP 2002085922).

Yoshida ('922) teaches a honeycomb structure (See Drawing #1.)



comprising a plurality of honeycomb segments partitioned by partition walls and having a plurality of circulation holes penetrating in one axial direction (See paras. 16, 30, 44-60, 89 and Drawing #1, ceramic structure #10.); and a bonding layer existing between the adjacent honeycomb segments for bonding the plurality of honeycomb segments, wherein the bonding layer is formed by use of a bonding material including oxide fibers, inorganic particles; and a colloidal oxide with the fibers satisfying the following relational expression (1),

$$1.0 \leq L \times (W/D)/100 \leq 7.3 \quad (1)$$

in which L is an average length ( $\mu\text{m}$ ) of the oxide fibers in a longitudinal direction in a range from 10 to 100  $\mu\text{m}$ , D is specific gravity ( $\text{g}/\text{cm}^3$ ) of the oxide fibers, and W is mass percentage of content (% by mass) of the oxide fibers in the entire bonding material/(the bonding material) (See paras. 52-60, 89 and Drawing #1, ceramic structure #10. Furthermore, see p. 6, para. 1 of Applicant's Paper filed 15 January

*2009 where Applicant admits that Yoshida ('922) anticipates the claims with  $L \times (W/D)/100$  being less than 30 and greater than 0.0625 which clearly encompasses the above claimed range. Furthermore, Applicant does not assert or provide any evidence that Yoshida's ('922) above value must be greater than 7.3 or less than 1.0. Whether or not portions of the range may or may not provide better performance does not make Applicant's invention patentable over a product already known in the prior art.), and an average diameter d in a cross-section perpendicular to the longitudinal direction is set in a range from 1 to 20  $\mu\text{m}$ , wherein mass percentage of the oxide fibers having a shape defined as  $0.5 \leq (\text{a diameter of a cross section perpendicular to the longitudinal direction})/(\text{a length in the longitudinal direction}) \leq 1$  is set equal to or below 50% by mass in the oxide fibers, and the W is set in a range from 10% to 50% by mass, with a plurality of honeycomb segments partitioned by partition walls and having a plurality of circulation holes penetrating in one axial direction; and a bonding layer existing between the adjacent honeycomb segments for bonding the plurality of honeycomb segments, wherein the honeycomb segment comprises any of silicon carbide and a silicon-silicon carbide compound material as a main ingredient (See paras. 16, 30, 44-60, 89 and Drawing #1, ceramic structure #10, with sealant #13a and porous member #20. Whether or not portions of the range may or may not provide better performance does not make Applicant's invention patentable over a product already known in the prior art.) and inherently teaches a heat conductivity of the bonding layer being in a range from 0.1 to 5 W/mK since the composition is the same. In the alternative, a person having ordinary skill in the art would obviously appreciate or provide a bonding layer with the*

above heat conductivity in order to provide effective heat transfer without deterioration of the bonding strength. Thus, a rejection under 35 USC 102/103 is proper (See MPEP 2112.).

6. Claim 15 is rejected under 35 U.S.C. 103(a) as obvious over Yoshida (JP 2002085922).

Yoshida ('922) teaches the honeycomb structure discussed above, however, fails to expressly disclose wherein the bonding material does not contain a silane coupling agent.

However, Yoshida ('922) teaches that a large number of alternative materials are suitable and effective bonding agents (See paras. 30-48.). Furthermore, the composition of the honeycomb is the key parameter and as long as the bonding materials are effective it would have been obvious to substitute alternatives known in the art including those not including silane coupling agents. Furthermore, Applicant does not set forth any evidence or analysis of what is critical of not using silane coupling agents. Therefore, it would have been obvious to a person having ordinary skill in the art to use alternative coupling agents that do not include silane so as to provide an effectively bonded and functioning honeycomb structure.

#### **ANSWERS TO APPLICANT'S ARGUMENTS**

7. In response to Applicant's arguments (See p. 5, paras. 2-5 of Applicant's Paper filed 7/13/2009.) that Yoshida ('922) does not teach the claims because the range taught by Yoshida ('922) is not sufficiently specific, it is noted that Applicant's arguments are not persuasive and not commensurate in scope with the issue under review. As can

be seen in claim 1, Applicant's claimed range is broad. Applicant does not claim a single point or a narrow range, thus, Applicant's claims are not specific. As made of record, Applicant acknowledges that Yoshida ('922) does teach the claimed range. Yoshida ('922) fibers have the same length, specific gravity and mass percentage as per Applicant's invention. Not only does Yoshida ('922) teach at least one point within the range but also teaches the entire range.

8. In response to Applicant's arguments (*See p. 4 of Applicant's Paper filed 7/13/2009.*) regarding new claim 15, it is noted that these new limitations are discussed above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent T. O'Hern whose telephone number is (571)272-0496. The examiner can normally be reached on Monday-Thursday, 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brent T. O'Hern/  
Examiner, Art Unit 1794  
September 17, 2009